

Two new Aphids, *Capitophorus shepherdiae* and *Siphocoryne aquatica* (Hem., Hom.).

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(Plates XXIV, XXV.)

Capitophorus shepherdiae, n. sp., Plate XXIV.

In the *Journal of Economic Entomology*, 1915, page 379, attention was called to an aphid that had been found associated with *Rhopalosiphum hippophaes* and *Myzus braggii* on *Elaeagnus* and *Hippophaes* as over-winter hosts, which so resembled either of these species in general appearance as to be easily mistaken for them. This species has since been isolated, and its development followed through the year, proving it to be a different species and one that seems to be undescribed. This species may have an alternate summer host plant, but we have not been able to find one and the lice remained on *Shepherdia* all summer in 1915.

This species is readily separated from any other we know by the combination of three characters, as follows: spur of antenna less than one-half as long as the cornicle in the apterous form, cornicle clavate, and dorsum of abdomen conspicuously decorated with several rows of short, stout, capitate hairs. Descriptions of the different forms of this species follow. All measurements are in millimeters.

Fundatrix.—Color pale green, or yellowish green; dorsal surface set with numerous short, stout capitate hairs on small, cone-shaped tubercles, there being one marginal and three lateral rows on either side of the median line of the abdomen and metathorax; antennæ barely reaching to the abdomen, set on short tubercles, 5-jointed, first joint with rather prominent swelling on the inner side, giving it the appearance of being bent at a right angle; joint III as long as IV and V together; relative lengths of joints beyond the second varying little from the following proportions: 16: 8: 6: 7 (spur); total length, .50 to .60; primary sensoria only; vertex flat, but set with tubercles that bear capitate hairs; capitate hairs on antennal tubercles and joints I and II of the antennæ; cornicles rather long, (.40), slender towards the base, clavate distally, due to a thickening on the inner margin, and slightly curved outward near the distal end; cauda but little longer than its width at base, and somewhat blunt at the tip; legs rather short

and stout, the hind tibiæ measuring .50; length of body to base of cauda 1.40.

Described from many examples taken on *Shepherdia argentea* at Fort Collins, Colo., during the year 1915, by L. C. Bragg. See Plate XXIV, figures 1, 2, 3 and 4.

Apterous Fundatrigenæ.—General color a pale yellowish green to greenish yellow with transverse dashes of darker green, much as in the oviparous form; antennæ, legs, cornicles and cauda concolorous with the body, except that the tarsi and the last segment and spur of the antennæ are blackish; eyes dark red; capitate hairs as in the fundatrix and the egg-layer; body, 1.40 by .80; antenna, .75; cornicle, .43; hind tibiæ, .56; antenna 5-jointed, ordinarily, with the segments measuring about as follows: III (III and IV in one), .28; IV, .14; V, .08; spur, .16. In occasional examples a swelling near the middle undoubtedly indicates the location of a former joint between the segments, and in such examples the basal portion (old third joint) is a little longer than the distal portion, the ratio being about as 7 to 5. See Plate XXIV, figure 5.

Described from numerous examples taken from *Shepherdia argentea* growing on the grounds of the Colorado Agricultural College, July 1st, 7th and 20th, 1915, by L. C. Bragg

Alate Fundatrigenæ.—Color light-green with dorsum of head, thorax, meso-sternum, and a large quadrate area on the abdomen dusky or dark-green to blackish; antenna blackish except joints 1 and 2 and the extreme base of 3, which are pale greenish; legs greenish, except at the distal ends of the tibiæ and the tarsi which are blackish; distal half of the cornicles dusky; cauda and beak green, the latter attaining the 2nd coxæ; three dark-green spots upon either lateral margin of the abdomen; eyes dark-red, front of head considerably produced and bearing about 4 capitate hairs; first joint of antenna moderately gibbous on the under side; capitate hairs occurring on the pronotum, anterior lateral angles of the mesothorax, and in longitudinal rows over the abdomen; length of body about 1.30 to 1.50; wing, 2.50; antenna about 1.10 to 1.20; proportions of joints beyond the second about as follows:—100: 85: 90: 40: 100 (spur); cornicle, .40; cauda, .12; numerous (20 or more) oval sensoria on joint III of the antenna; joint IV with about half as many; joints V and VI with permanent sensoria only; beak attaining 2nd coxæ. See Plate XXIV, figures 6 and 7.

Described from numerous examples taken from *Shepherdia argentea*, Fort Collins, Colo., June 19, 1915, by L. C. Bragg.

Male.—Resembles the alate fundatrigena but is much smaller, about 1 mm. in length; antenna (figure 10) about 1.15 long, joint I strongly gibbous, joints II and III with sensoria about as in alate virgogene, joint V with about 10 to 12 sensoria; cornicles about .33; claspers black; cauda dusky; hind tibia .66.

Described from four specimens, two taken October 20, and two taken September 28, 1915, at Fort Collins, Colo., by L. C. Bragg, from *Shepherdia argentea*.

Oviparous Female.—Resembles the other apterous forms of the year very closely, is more yellow in color, averages a little longer than the stem-mother; antenna about .80, or nearly once and a half as long as the antenna of the stem-mother. Segments 3 and 4 united in one as in the other apterous forms; cornicles, .45; hind tibiae moderately swollen throughout nearly their entire length, and with many small sensoria, see figures 8 and 9.

Described from specimens taken by Mr. L. C. Bragg, at Fort Collins, Colo., from *Shepherdia argentea*, Oct. 20, 1915. *Siphocoryne aquatica*, n. sp., Plate XXV.

Alate Virgogene.—Head, thorax, antennae, tarsi, distal ends of tibiae, and cauda black or blackish; abdomen green with transverse dashes or blotches on most of the abdominal segments, which, in some, form a continuous area on segments 2, 3, 4 and 5. These dark markings largely disappear in balsam. Length of body 2; wing 3; cauda .20; antennae 1.10; cornicles clavate without flange; venation normal; third joint of antenna with about 14 nearly circular sensoria; permanent sensoria ciliated; joint 3 about twice as long as 4, and joints 4, 5, 6 and spur sub-equal; a small but distinct wart-like tubercle on the hind margin of joint 8 of the abdomen, just before the cauda; figures 1, 2, 3, 4.

This is a very common louse on a water-grass (*Catabrosa aquatica*) growing on seeped land, usually found in the water along the margins of ditches. The lice often occur on leaves and stems beneath the water where they seem to be perfectly at home. This louse remains on the grass throughout the year, and has been found alive under ice following temperatures as low as 15 to 20 degrees below zero. We have made collections at thirty different dates in ten different years. Both alate and apterous forms have been taken in every month of the year, and, apparently, they occur at all times. No sexual form or eggs have been recognized. Mr. Bragg took this

species on sweet-grass in Cherokee Park (Campton's), Feb. 27, 1916, at an altitude of 7800 feet.

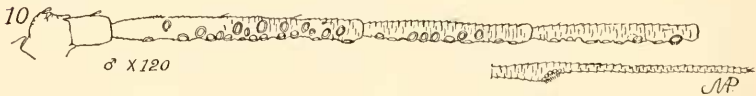
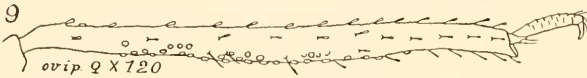
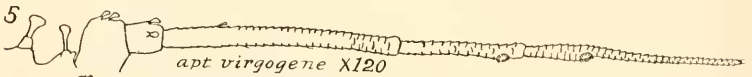
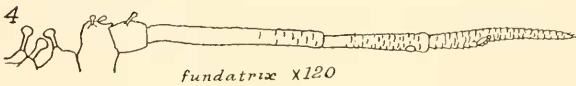
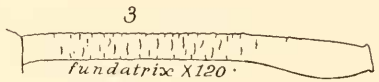
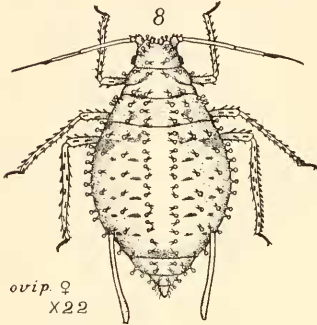
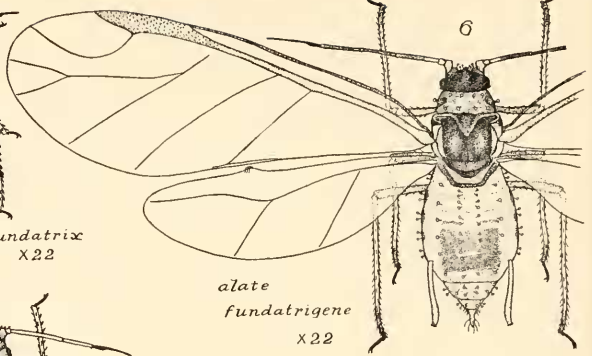
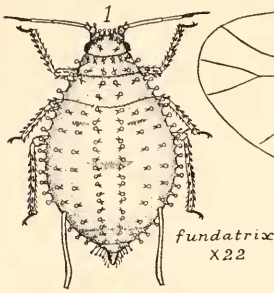
Apterous Virgogene.—Color light yellowish green, almost exactly the same as the grass leaves upon which it lives; rather heavily covered with white powder on the ventral surface, but little on dorsum; general form rather elongate (about 2.60 long by .70 to 1 broad); length of antenna, .85 to .95; cornicles and joints 1 and 2 and distal half of antennæ, dusky to black and powdered throughout; eyes prominent and black; legs yellowish and covered with powder; tarsi dusky to black; cauda concolorous with body or dusky, rather bluntly pointed at tip; beak short, barely attaining 2nd coxæ; cornicles weak recumbent on the abdomen, concolorous with the body with the extreme tips blackish, in form clavate, in the shape of a baseball bat, but with the small end attached to the body and with the free end rounded off and without any flange present; length, .25 to .30. The entire body is free from hairs, but has a roughness due to what appear to be minute wrinkles. The antenna is 6-jointed, joint 3 being about twice the 4th, and joints 4, 5, 6 and the spur are sub-equal; vertex, strongly convex.

A striking peculiarity of this species is a rather prominent tubercle on the middle of the hind margin of the dorsal segment preceding the cauda in the apterous form. The tubercle is present but quite small in the alate form. In some examples the third joint of the antenna has from 2 to 4 sensoria which are rather indistinct and possibly only vestiges as the merest outlines are all that can be seen, and these are sometimes more or less broken and irregular. Their location is as shown in Plate XXV, figure 2. The antennae are upon short but distinct tubercles, Plate XXV, figures 5, 6, 7 and 8.

EXPLANATION OF PLATES XXIV, XXV.

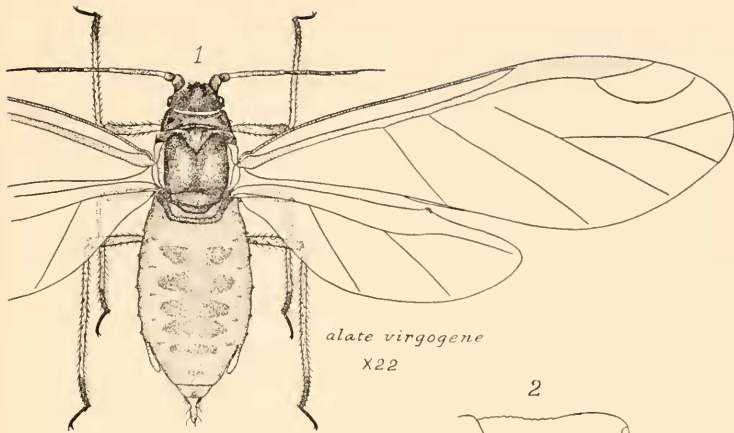
Plate XXIV. *Capitophorus shepherdiae* n. sp.: 1, Fundatrix; 2, capitata hairs on tubercles; 3, cornicle; 4, antenna and vertex of same; 5, antenna of apterous fundatrigena; 6, alate fundatrigena; 7, antenna and vertex of same; 8, oviparous female; 9, hind tibia of same; 10, antenna of male. Figures 1, 6 and 8 x 22 diameters; other figures 120 diameters. Original. Miss Miriam A. Palmer, delineator.

Plate XXV. *Siphocoryne aquatica* n. sp.: 1, alate virgogene; 2, cornicle; 3, last three abdominal segments; 4, antenna of same; 5, apterous virgogene; 6, last three abdominal segments; 7, cornicle; 8, antenna of same. Figures 1 and 5 x 22 times; figures 3 and 6 x 30 times; figures 2, 4, 7 and 8 x 90 times. Original. Miss Miriam A. Palmer, delineator.

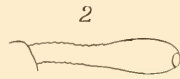


CAPITOPHORUS SHEPHERDIAE—GILLETTE & BRAGG.

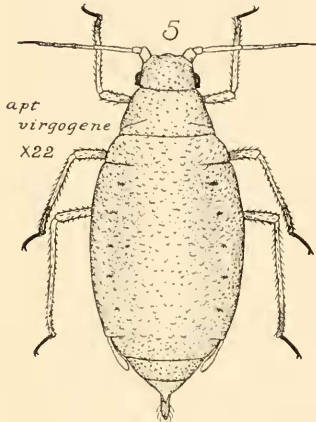
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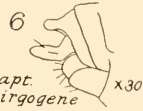
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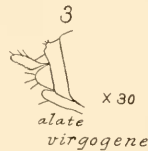
alate virgogene
X90



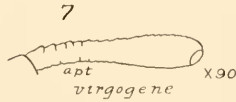
apt virgogene
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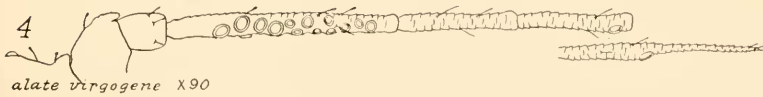
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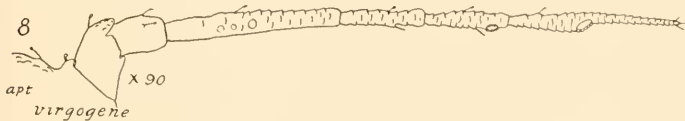
alate virgogene X30



apt virgogene X90



alate virgogene X90



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SIPHOCORYNE AQUATICA—GILLETTE & BRAGG.